

SECTION 6

DECK COVERINGS

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6.1 REFERENCES

(6A) ADA Accessibility Guidelines for Buildings and Facilities (ADAAG), as amended through September 2002

6.2 INTRODUCTION

This Section contains the Contractor Design and Provide general requirements for deck coverings other than paint, as well as required cove moldings, stair tread nosings and related ancillary coverings.

For WSF Fleet-wide Standardization purposes, End No. 1 of the Vessel shall always be considered the bow, and this designation shall delineate port and starboard, fore and aft wherever they are addressed in the Technical Specification.

6.3 GENERAL

Materials selected shall generally be accessible for replacement with minimal lead times and installation costs and with allowance for small quantities to be ordered when future reorders become necessary. Wherever possible custom items should not be used.

Materials, thickness, underlayments and applications shall be in strict accordance with the manufacturers' recommendations.

The Contractor shall design and provide all interior deck coverings as determined by the Contractor's design and as specified herein. The materials supplied and all installations shall satisfy the requirements of the applicable Authoritative Agencies. Documented proof of required certifications shall be made available prior to the start of installation.

Prior to laying deck covering, the decks shall be thoroughly prepared and cleaned in accordance with the manufacturer's recommendations to accept the deck covering. All rust, scale, grease and oil shall be removed. Particular care shall be given to surface preparation, temperature, and humidity conditions at the time of installation of all underlayments, mastics, and deck coverings. Temporary heating and humidity control shall be provided if required. Installation methods and adhesives shall be as recommended or specified by the manufacturer, except that where adhesives are used, they shall be waterproof, in all cases, and remain flexible after curing. All deck covering or underlayment shall be certified 100-percent (100%) asbestos free and contain no formaldehyde, 4-PCHs or any other compound that is known, or has been identified, as a potential hazardous material due to long or short term exposure.

Deck covering shall not be laid until deck connections for fastening machinery, joiner work, equipment and furniture are installed. Where deck drains are installed, deck coverings shall be sloped to the drains.

1 Manufacturer's instructions shall be explicitly carried out in every phase of the preparation
2 and installation of underlayments and coverings. Only personnel who have been certified or
3 approved by the manufacturer or its authorized representative shall install the deck
4 coverings.

5 After installations have been completed, all deck coverings shall be thoroughly cleaned of
6 residual adhesives, scuff marks, foot prints, and other surface contamination and waxed or
7 sealed as recommended by the manufacturer. Thereafter, finished surfaces shall be protected
8 with an OSHA approved plywood, paneling, or WSF approved equal, and kept covered and
9 maintained until the Vessel is delivered to WSF to prevent wear and damage.

10 Provide caulking or bead sealing between deck coverings and all vertical surfaces to prevent
11 water seepage during cleaning and maintenance.

12 Just prior to Vessel delivery, finished deck surfaces shall be thoroughly cleaned and/or
13 waxed or sealed in accordance with the manufacturer's recommendations. Any damaged or
14 marred flooring shall be replaced at no cost to WSF.

15 Coverings for exterior decks and those depicted as "bare and painted" in the Contractor's
16 design are specified in Section 14 of the Technical Specification. Provide anti-slip abrasive
17 strips in accordance with the *DECK SAFETY TREADS* Subsection in this Section of the
18 Technical Specification in those "bare and painted" walk areas as directed by the WSF
19 Representative.

20 Care shall be taken to ensure that the difference in deck covering heights within spaces is
21 zero and between spaces is no greater than $\frac{1}{8}$ inch.

22 Where carpeting meets a threshold, the threshold is to be installed over the carpet to prevent
23 a trip hazard and wear to the edge of the carpet.

24 **6.4 SURFACE PREPARATION**

25 Interior steel decks shall be dry, free of dirt and rust, and primed or otherwise protected in
26 accordance with manufacturers' recommendations prior to application of underlayments and
27 deck coverings. All interior deck steel shall be prepared, primed, and otherwise protected in
28 accordance with recommendations to prevent rust and corrosion. Welds shall be ground to a
29 maximum of $\frac{1}{8}$ inch to prevent excessive fairing. See Section 14 of the Technical
30 Specification for additional requirements.

31 **6.5 NON-STRUCTURAL FIRE PROTECTION UNDERLAYMENT**

32 All steel decks, not requiring structural fire protection underlayment, over which finished
33 deck covering is to be applied shall first receive an underlayment of approved type, applied
34 in accordance with the manufacturer's recommendations to a thickness of not less than

¹/₁₆ inch over the high spots of the deck. Should there be ridges, hollows, or other imperfections on the surfaces after underlayment has been applied which are sufficient to show through or to make an uneven surface for the deck covering, a second smoothing coat shall be applied and sanded. Underlayment shall be asbestos free DEX-O-TEX Subkote #1, or equal, as approved by the USCG.

Ramps built up of DEX-O-TEX Terrazzo M, or equal, shall be provided on the exterior decks where they lead to the Passenger Cabin. The depth on the Passenger Deck shall be equal to the depth of the fire insulation underlayment and tapered down with no more than a 1:20 taper.

6.6 STRUCTURAL FIRE PROTECTION UNDERLAYMENT

Structural Fire Protection underlayment shall be provided under safety flooring and non-skid (MES Stations) on the Passenger Deck and other areas determined by the Contractor's design to provide fire integrity. It shall be in accordance with the manufacturer's recommendations certified to meet USCG requirements. Because of weight considerations, special care shall be taken to not exceed minimum required thickness.

It is WSF's intent that the finished deck coverings in all spaces, when complete, shall be within ¹/₈ inch in height of each other. Minimum USCG fire protection requirements shall always be maintained. If the Contractor chooses to use non fire insulation underlayment to bring up the level of the spaces, he must submit, in writing, the proposed alternate material to the WSF Representative for approval.

Insulating underlayment shall be POLYSPEC 7K, or equal. Apply a second coat to smooth hollows, low spots and other imperfections in the first coat of underlayment.

Provide a full "skim coat" of POLYSPEC Lite Latex, or ARDEN Feather Finish to the entire deck being tiled or non-skidded. The Skim coat shall provide a level and smooth surface for tile or non-skidded application. The Contractor shall warrant that the skim coat will not de-laminate from the underlayment, crack, or bubble during the warranty period. When the underlayment is sufficient dry, sand out the trowel edges to provide a smooth surface for the tile installation. No trowel ridges shall show through the tile within one (1) of installation. Proposed alternates shall be accompanied with unit weight data for the WSF Representative's consideration.

6.7 ENGINEER'S OPERATING STATION (EOS) AREAS ACOUSTIC DECKS

The Engineer's Dayroom, EOS, and Chief Engineer's Office shall be provided with a NORAC F-300 Floating Floor, (Marine Services Corp. (MSC), Hood River, OR, (541) 386-1010), or equal system. The finished acoustic installation shall be suitably covered with a poured Terrazzo deck as approved by WSF Representative.

6.8 POURED DECKING

Unless directed differently elsewhere in the Technical Specification, poured decking shall be applied no less than one (1) inch thick in wet spaces and elsewhere determined by the Contractor's design. In way of deck drains, the thickness may be tapered down to ½ inch. Decking shall be DEX-O-TEX Terrazzo M (Fine), or equal. Color to be #DFS 06 ("WARM GRAY"). Decking shall be medium texture and coved up six (6) inches. It shall be smoothly sloped toward deck drains with no high or low spots.

Fair all poured floors to meet adjoining deck treatments to prevent a trip hazard. Deck shall have no high or low spots. Color to be as determined by the Contractor's approved design.

A poured floor shall be installed in all Passenger and Crew restrooms, and showers throughout the Vessel.

A poured floor shall be installed in the EOS, Engineer's Dayroom, and Chief Engineer's Office over the acoustic floating floor installation. The Terrazzo shall be applied over the underlayment (approximate ¾ inch thick) for a ½ inch total thickness. Decking shall be medium texture and cove molding as specified in the *COVE MOLDING* Subsection in this Section of the Technical Specification. Color to be as determined by the Contractor's approved design.

6.9 DECK COVERINGS/CARPETING

All deck coverings shall be commercial grade and selected to provide long life under heavy traffic and abuse. Only products with a fifteen (15) year minimum life cycle under these conditions shall be specified.

Each deck covering shall have a low maintenance level for appearance retention over the product's life span. Many of the required deck coverings are hard surfaces that can easily be washed. Carpeted areas, where feasible, are solution dyed for enhanced clean-ability.

Provide LEE CARPETS NeoFloor Carpet, or equal, in locations as indicated in **TABLE 6-1**. Color shall be as determined by the color boards in Section 25 of the Phase II Design Requirement

All deck coverings shall be selected so that they satisfy the Authoritative Agencies.

6.10 WAINSCOTING

Provide wainscoting for the Passenger and Unisex Restrooms bulkheads. Because of historical difficult staining/cleaning/maintenance issues onboard other WSF Vessels, the use of grouted ceramic tiles as a wainscoting is discouraged and requires prior approval of the WSF Representative. Color shall be as determined by Color Boards in Section 25 of the

Phase II Technical Proposal Requirement. Verify color, finish and configuration with the WSF Representative.

6.11 SAFETY FLOORING

Provide Safety Flooring as determined by the Contractor's design. Flooring shall be TARKETT Inc. Azrock[®], Vinyl Composition Tile (VCT) or equal, in 1/8" thick × 12" × 12" tiles, and coved up six (6) inches all around.

Installation and adhesives shall meet all manufactures published requirements, recommendations, and practices.

Patterns and colors shall be as determined by the Contractor's design. Any proposed deviations shall be approved by the WSF Representative.

The static coefficient for slip resistance shall exceed a safe working surface of 0.5 as determined by the U.S. Department of Commerce and ASTM D2047.

6.12 COVE MOLDING

Sanitary rubber base cove molding shall be provided around all boundaries of vinyl tile in the EOS, Engineer's Dayroom, and Chief Engineer's Office Terrazzo decks, and rubber tile deck coverings. Coving shall be a minimum of four (4) inches high (six (6) inches high for poured decking) and of continuous roll type with inside and outside corners. Rubber base cove molding shall be firmly secured to joiner bulkheads with USCG approved adhesive, such as suitable silicon, which will not react with the plasticizers in the joiner wall vinyl. Coving must also be sealed along its top and bottom edge to prevent any moisture from seeping behind the molding.

Carpet and sheet vinyl shall be coved up bulkheads a minimum of four (4) inches and capped with metal extrusion at the cove edge.

All deck covering and coving materials shall be installed in strict adherence to manufacturer's specifications.

6.13 TACTILE STRIPS

Tactile strips shall be provided in locations determined by the Contractor's design to afford location guidance for the visually impaired in accordance with Reference (6A).

Tactile strips shall be rubber wide rib matting manufactured by the R.C.A. RUBBER Co., or equal, four (4) inches wide. Care shall be taken that the tactile strip is flush with the flooring to prevent tripping. Color to be as determined by the Contractor's approved design.

6.14 DECK SAFETY TREADS

Pressure sensitive, fabric backed, silicon carbide safety treads shall be provided at the head and foot of all interior and exterior stairways, inclines and vertical ladders, outside elevator doors, on each side of door thresholds, on stair treads that are not safety treads by design, and in other locations where it is deemed necessary to ensure safe footing. Safety treads shall not be installed on any surface until they have been thoroughly cleaned of all waxes, sealers, oils and other contaminants which may prevent firm adhesion to the deck.

SUPER-LINKS entryway flooring system, or equal, is to be provided on the interior side of all doorways leading out onto the exterior decks.

6.15 NON-SKID DECK COVERINGS

See Sections 14 and 16 of the Technical Specification for additional non-skid installation requirements.

6.16 SAFETY WALK-OFF MATTING

For WSF safety and liability purposes provide BONAR FLOORS Inc. Coral Duo, or equal, walk-off matting for the interior entries of all:

1. Sun Deck upper stairway landings inside Sun Deck to Passenger Deck weather doors; and
2. Weather deck door entrances to Sun Deck Crew quarters passageways.

Walk-off matting, transition strips, and transition deck feathering shall be installed in the methodology as set forth in WSF Drawing 8305W-542-006-01 (*latest revision*) - *DECK COVERING PLAN AND LEGEND* for the M.V. CHELAN / INTERIOR UPGRADE. The intent of this installation is to provide a matting system which will remove foot dirt, grit, and moisture while not presenting a trip hazard for Passengers and Crew. Coat underlayment under walk-off matting and for one (1) tile width around the perimeter of the walk-off matting with epoxy sealer to make the underlayment area waterproof.

The Contractor shall provide one (1) complete set of replacement walk-off mats for each Vessel.

6.17 PASSENGER DECK SAFETY WALK-OFF GRATINGS

Provide a Passenger Deck entrance walk-off grating with drain pan system just outside each of the four (4) exterior double doors to the Passenger cabin from the Picklefork areas.

The walk-off grate with drain pan installation shall be designed and fabricated in general agreement with the methodology as set forth in WSF Drawing No. 8101-666-006-01 – *GRATING / DRAIN PAN (latest revision)* for M.V. SPOKANE, and to suit the Contractor's New Ferry design. The installation shall include two (2) 3-inch weather drains down through the deck tied into an outboard weather deck drain as set forth in the *Weather Deck Drains* Subsection in Section 11 of the Technical Specification. For WSF Fleet-wide Standardization purposes the ISOFR "LIGHT GRAY" pultruded fiberglass gratings (T-1210-I) and spring clip materials shall be as set forth in the above mentioned drawing.

Provide a 1:6 or greater sloped ramp around the grating/deck pan installations. See the *NON-STRUCTURAL FIRE PROTECTION UNDERLAYMENT* Subsection in this Section of the Technical Specification for ramp materials and installation.

Special Attention shall be given to the installation to meet the open gap criteria and to prevent any trip hazards caused by grating unevenness.

Finish on completed installation shall match the surrounding area.

6.18 STAIR AND LADDER TREADS

Stair treads shall be provided on all structural stairways as determined by the Contractor's design. For WSF Fleet-wide Standardization purposes, treads shall be WOOSTER PRODUCT Inc. StairMaster® Renovation Treads, Type 500 Series, full tread depth with maximum tread width. Color shall be as determined by color boards in Section 25 of the Phase II Design Requirement and shall include a high visibility safety colored "SAFETY YELLOW" (SY-1) leading edge option.

All inclined ladder treads shall be provided with fiberglass solid type safety treads, FIBERGRATE COMPOSITE STRUCTURES Inc. Fiberplate® Fiberglass Stair Tread Covers with photo luminescent nosing area, or equal, over the treads as specified in this Section and Sections 5 and 79 of the Technical Specification.

6.19 ELECTRICAL SAFETY SHEET COVERING AND MATTING

Provide KOROSEAL Smooth Top Switchboard, or equal, dielectric rubber matting at the front and rear of all switchboards, group control boards, over deck areas on which personnel stand when servicing energized electrical equipment or where a shock hazard may be present, and in the Engineer's Operating Station (EOS). No seams shall be within three (3) feet of electrical or electronic equipment, panels or work benches. If this is unavoidable, seams shall be heat welded or chemically sealed to provide a continuous surface free of seams, craters or porosities. Matting shall comply with 46 CFR §111.30-11. Matting color shall be as determined by the Color Boards in Section 25 of the Phase II Technical Proposal Requirement.

- 1 In spaces other than electrical or electronic, portable rubber safety matting with ribbed top
- 2 surface shall be provided in front and back (where accessible) of all switchboards, control
- 3 consoles, motor control centers and other electrical equipment as required by regulation and
- 4 wherever shock hazard exists. Exposed corners of the matting shall be rounded off and
- 5 present a neat and finished appearance.

| TABLE 6-1 DECK COVERINGS | | | | | | | | |
|---|---------|-----------------|---------------|------------------------|--------------|----------|---------------|---|
| Type of Space | Carpet | Safety Flooring | Terrazzo Deck | Acoustic Floating Deck | Painted Deck | Non-Skid | Walk-Off Mats | Remarks |
| Pilothouse | ✓ | | | | | | | |
| Officers' and Crew Day Room | ✓ ## | ✓ ## | | | | | | ## Sun Deck Dayroom shall have carpet, while the Passenger Deck Dayroom shall have Safety Flooring |
| Officers' and Crew Stateroom | ✓ | | | | | | | |
| Officers' and Crew Head & Shower | | | ✓ | | | | | |
| Fan Rooms | | | | | ✓ | | | |
| Cleaning Gear Lockers | | | ✓ | | | | | |
| Linen Lockers | | | | | ✓ | | | |
| Officer and Crew Sun Deck Passageway | ✓ | | | | | | ✓ | See Safety Walk-off Matting Subsection |
| Deck Lockers | | | | | ✓ | | | |
| ** Electrical Distribution Rooms | | ✓ ## | | | ✓ | | | ## Elec'l Dist. Room No. 3 as shown in the Contractor's Design shall have same deck covering treatment as Purser's Office |
| Emergency, Diesel Generator Room | | | | | ✓ | | | |
| Offices | ✓ | | | | | | | |
| Fidleys | | | | | ✓ | | | |
| Passenger Lounges | | ✓ | | | | | ✓ | See Tactile Strips |
| Pickleforks | | | | | ✓ | ✓ | | See Passenger Deck Safety Walk-off Grating Subsection |
| Restrooms | | | ✓ | | | | | |
| Food Vending Area | | ✓ | | | | | | See Tactile Strips |
| Cafeteria | | ✓ | | | | | | |
| Purser's Office | | ✓ | | | | | | Includes First Aid area |

| TABLE 6-1 DECK COVERINGS | | | | | | | | |
|---|--------|-----------------|---------------|------------------------|--------------|----------|---------------|---------|
| Type of Space | Carpet | Safety Flooring | Terrazzo Deck | Acoustic Floating Deck | Painted Deck | Non-Skid | Walk-Off Mats | Remarks |
| Stair Towers (other than Crew Stairtower) | | ✓ | | | | | ✓ | |
| Crew Stair Tower | | | | | ✓ | ✓ | | |
| Emergency Squad Lockers | | | | | ✓ | | | |
| Dayrooms, Passenger Deck | | ✓ | | | | | | |
| Stair Towers (Weather) | | | | | ✓ | ✓ | | |
| Fuel Station | | | | | ✓ | | | |
| Engineer's Stores | | | | | ✓ | | | |
| Engineer's Parts Hatch Spaces | | | | | ✓ | | | |
| Fueling Equipment Locker | | | | | ✓ | | | |
| Engine Room Accesses | | | | | ✓ | | | |
| Gear Lockers | | | | | ✓ | | | |
| Crew Shelter | | ✓ | | | | | | |
| Line Stowage Locker | | | | | ✓ | | | |
| Equipment Stowage Spaces | | | | | ✓ | | | |
| Anchor Winch Area | | | | | ✓ | | | |
| Engineer's Stores (below LVD) | | | | | ✓ | | | |
| EOS | | | ✓ | ✓ | | | | |
| Chief Engineer's Office | | | ✓ | ✓ | | | | |
| Work Shop | | | | | ✓ | | | |
| Engineer's Dayroom | | | ✓ | ✓ | | | | |
| Engineer's Restroom | | | ✓ | | | | | |

| TABLE 6-1 DECK COVERINGS | | | | | | | | |
|---|--------|--------------------|------------------|---------------------------|--------------|----------|------------------|---|
| Type of Space | Carpet | Safety Flooring | Terrazzo Deck | Acoustic Floating Deck | Painted Deck | Non-Skid | Walk-Off Mats | Remarks |
| & Shower | | | | | | | | |
| Engineer's Locker Room | | | | | ✓ | | | |
| Unassigned Room | | ✓ | | | | | | |
| MES Station | | | | | | ✓ | | Install non-skid over required Structural Fire Protection underlayment |
| (blank) | | | | | | | | |
| (blank) | | | | | | | | |

6.20 GRATINGS

Gratings shall be in accordance with Section 79 of the Technical Specification.

6.21 SPARE PARTS AND INSTRUCTION MANUALS

Provide a list of recommended spare parts and special tools, for those items which are Contractor furnished, together with parts lists and instruction manuals necessary to maintain and service provided equipment and accessories in accordance with the requirements of Sections 86 and 100 of the Technical Specification.

The Contractor shall provide the WSF Representative with spare deck coverings for use in repair after delivery. The equivalent of 200 ft² coverage of each type and color/pattern of deck covering used during construction shall be provided for each Vessel.

6.22 TESTS, TRIALS, AND INSPECTIONS

Tests and/or trials shall be in accordance with Section 101 of the Technical Specification.

Inspections shall be performed as defined in this Section and in Sections 1 and 2 of the Technical Specification.

6.23 PHASE II TECHNICAL PROPOSAL REQUIREMENTS

The following deliverables, in addition to other deliverables required by Section 100 of the Technical Specification and the Authoritative Agencies, shall be provided during the Phase II Technical Proposal stage of Work in accordance with the requirements of Section 100 of the Technical Specification:

A. Deck Covering Schedule

B. Booklet of Deck Covering Maintenance Requirements

The ***Deck Covering Schedule*** shall identify by space (e.g., Purser's Office) and/or application (e.g., cabin shower), the manufacturer, full type description, color, pattern (where applicable), extent and typical installation details of coverings, underlayments, cove moldings, trim and related materials.

The ***Booklet of Deck Covering Maintenance Requirements*** shall list the manufacturers' maintenance recommendations for each deck covering in a tabulated booklet format.

See Section 100 of the Technical Specification for additional requirements regarding technical documentation.

6.24 PHASE III DETAIL DESIGN AND CONSTRUCTION REQUIREMENTS

The deliverables required by Section 100 of the Technical Specification and the Authoritative Agencies, shall be provided during the Phase III Detail Design stage of Work in accordance with the requirements of Section 100 of the Technical Specification:

See Section 100 of the Technical Specification for additional requirements regarding technical documentation.

(END OF SECTION)